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Eupithecia hollowayi sp. n. (Lepidoptera, Geometridae) from Borneo

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Abstract A new species, *Eupithecia hollowayi* Mironov & Galsworthy, sp. n. (Lepidoptera, Geometridae), belonging to the *proterva* Butler species-group, is described from Borneo. A colour illustration of the holotype male and line drawing of its genitalia are given.

Key words Lepidoptera, Geometridae, *Eupithecia hollowayi* sp. n., taxonomy, Borneo

Introduction

The genus *Eupithecia* Curtis, 1825 is one of the most species-rich genera of the family Geometridae, and indeed of the Lepidoptera. However, this genus is very poorly represented in Malesia (including the island of Borneo), and further to the south in Australia and New Zealand, where the fauna of *Eupithecia* is mainly replaced by representatives of the genera *Gymnoscelis* Mabille, 1868, *Chloroclystis* Hübner, 1825, *Pasiphila* Meyrick, 1883, *Tripteridia* Warren, 1903, and some smaller genera of the tribe Eupitheciini (Prout 1932, 1958; Holloway 1976, 1986; Dugdale 1988; Common 1990; Nielsen *et al.* 1996; Holloway 1997). Dr. J.D. Holloway recorded only 7 species of the genus *Eupithecia* from Borneo, namely *E. rigida* Swinhoe, 1892, *E. melanolopha* Swinhoe, 1895, *E. delozona* Prout, 1926, *E. costalis* Walker, 1863, *E. subtacincta* Hampson, 1895 (= *tabidaria* Inoue, 1955), *E. mundiscripta* (Warren, 1907) and *E. kamburonga* Holloway, 1976 (Holloway 1997). We have found a single specimen of an undescribed species of *Eupithecia* from Borneo in the collection of the Zoologisches Staatssammlung München (ZSM). The description and illustrations of this species and its genitalia are given in this paper.

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Eupithecia hollowayi Mironov & Galsworthy, **sp. n.** (Fig. 1)

Diagnosis. Wingspan 18 mm; fore wing 9.5 mm. Labial palpi relatively short, almost equal to diameter of eye, covered with brown scales. Head brownish; patagia covered with dirty white scales. Fore wing slightly elongate, with almost straight costal margin, gently curved near base, evenly curved termen and pointed apex; ground colour dirty white; basal area brown along costa; medial area brown from discal dot to costal margin; basal and antemedial transverse lines inconspicuous, oblique, sharply angled onto costa; postmedial line oblique, twice right angled near costa; medial and terminal areas divided by a broad, dirty white transverse band; terminal area brown, darker near tornus, at the middle and especially near apex; subterminal line distinct, very wavy, dirty white, indented near apex; discal dot medium-sized, rounded, black (visible on the right fore wing only); terminal line narrow, blackish brown, interrupted by veins; fringe distinctly dirty white and brown. Hind wing angulate at the terminal margin, with broadly rounded apex; ground colour dirty white; brown trans-

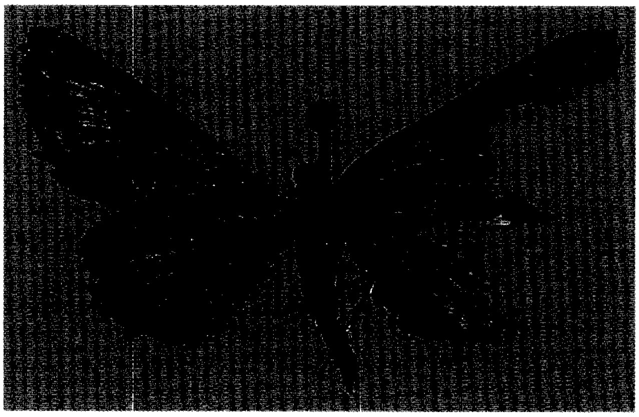

Fig. 1. *Eupithecia hollowayi* sp. n., holotype.

verse lines conspicuous; postmedial line broad, well marked by a series of elongate brown dashes on the veins; medial and terminal areas divided by broad, dirty white transverse band; terminal area brownish with distinct, dirty white, wavy subterminal line; discal dot small, rounded, brownish; terminal line and fringe as fore wing. Abdomen covered with mixed dirty white and brown scales, and also with black lateral stripes; last segment lighter, dirty greyish white.

Male genitalia (Fig. 2). Uncus narrow, pointed, biapical. Valve shaped like the segment of an orange, relatively narrow, tapered to apex, with straight dorsal margin, gently bowed near base, evenly curved ventral margin and narrowly rounded apex; sacculus lightly sclerotized. Vinculum short and narrow, semicircular, slightly tapered to apex. Papillae on the anterior arms of labides slightly clavate, covered with short setae at their apices. Aedeagus short, stout, slightly curved, shorter than length of valve. Vesica armed with one long, slightly curved, plate-like cornutus and one smaller, irregular cornutus at ductus ejaculatorius base. Sternite A8 peg-like, short, narrow, with almost parallel lateral margins, sharply broadened near base; two apical rods narrow, elongate, rather pincer-like; apical hollow membranous, very narrow and relatively deep; basal hollow shallow.

Female unknown.

Range. Borneo (Mt. Kinabalu).

Similar species. Judging from the structure of the male genitalia, this new species belongs to the *proterva* group (group B of Inoue,1979), which is extremely species-rich in Asia. Externally it is very similar to the widespread and common Palaearctic species *E. centaureata* (Denis & Schiffermüller, 1775) but is distinguished from it by the rounded discal dot and brown inner half of the terminal area on the fore wing, which is ochreous or rusty brownish in *E. centaureata.* It is unique in facies among members of the *proterva* group so far described, none of which is so extensively white in colour. The shape of the eighth sternite of the male is similar to those of two Japanese species, *E. subfumosa* Inoue, 1965 and *E. flavoapicaria* Inoue, 1979, also belonging to the *proterva* group (Inoue 1979), but the membranous apical hollow is deeper than in either of these species. The shapes of uncus, valve and vinculum in the male genitalia of *E. hollowayi* sp. n. are easily distinguished from those of the above species.

Holotype ♂. Borneo (Sabah), Mt. Kinabalu NP, 1550–1700 m, N6°0,70′/E116°32,35′, 5.–11. iv. 2000, leg. M. Hiermeier, Mironov slide no. 559 [= ZSM slide no. G 18714] (ZSM).

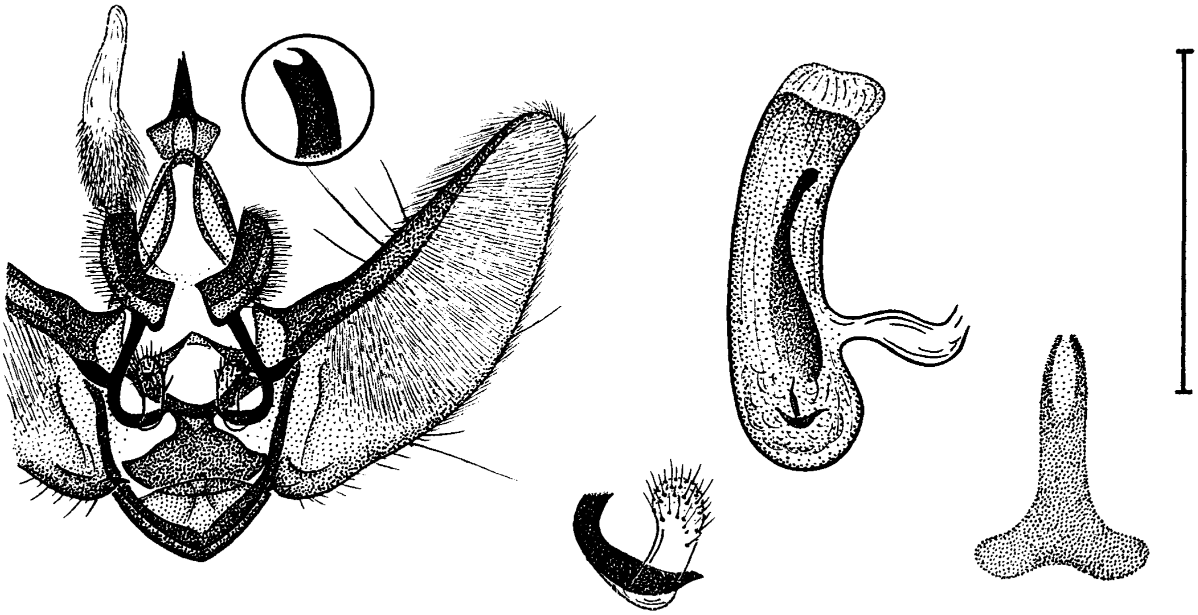

Fig. 2. Male genitalia of *Eupithecia hollowayi* sp. n. (scale bar = 1 mm: with sternite A8, and lateral view of uncus and papillae on the anterior arms of labides enlarged).

Note. The single holotype specimen is worn and damaged, with the distal part of both right fore and hind wings and the antennae missing.

Derivatio nominis. This species named in honour of the well-known specialist on the fauna of Bornean Lepidoptera, Dr. Jeremy Holloway (BMNH, London).

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摘要

ボルネオの*Eupithecia hollowayi* sp. n. (鱗翅目, シャクガ科) (V. G. Morinov · A. C. Galsworthy)

カバナミシャク属*Eupithecia*は鱗翅目の中でも, 多種を擁する属の一つであるが, Malesia地域では貧弱になり, オーストラリアやニュージーランドでは, カバナミシャク族の別属に置き換えられていく. ボルネオからは7種が記録されている(Holloway, 1997). ミュンヘンの博物館にあった標本1♂を調べた

ら新種だったので，ここに記載する．この種はthe *proterva* groupに属し，外見はユーラシア種の*E. centaureata*に類似し，雄の第8腹板は日本のアキカバナミシャク*E. subfumosa*とキモンカバナミシャク*E. flavoapicaria*に似ているが，交尾器の形態で容易に区別される．

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